SPACE SHUTTLE CRYOGENIC TECHNOLOGY REVIEW

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CONCLUSIONS

(1) THE SATURN V, CENTAUR AND TECHNOLOGY PROGRAMS CONDUCTED DURING THE PAST SEVERAL YEARS HAVE PROVIDED AN EXCELLENT BASE FOR SPACE SHUTTLE CRYOGEN SYSTEM DESIGN.

(2) ALTHOUGH TECHNOLOGY ADVANCEMENTS ARE REQUIRED TO SUPPORT THE SPACE SHUTTLE DEVELOPMENT, NO MAJOR TECHNOLOGY BREAKTHROUGHS ARE REQUIRED. HOWEVER, LIMITED OR IMMATURE BACKGROUND DATA PRECLUDE BASELINING AT THIS TIME THE MOST DESIRABLE APPROACHES IN THE AREAS OF PROPELLANT ACQUISITION, PROPELLANT TRANSFER, PROPELLANT MASS GAUGING IN ORBIT, INSULATION AND VARIOUS HARDWARE ASPECTS.

(3) TECHNOLOGY PROGRAMS IN PROGRESS, IDENTIFIED NEW PROGRAMS AND THOSE CURRENTLY BEING IDENTIFIED THROUGH THE SHUTTLE TECHNOLOGY PANEL STRUCTURE ARE EXPECTED TO PROVIDE THE REQUIRED MATURITY IN THE SPACE SHUTTLE CRYOGEN TECHNOLOGY AREAS.